UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,130	11/14/2003	Yoshinori Tomita	450100-02029.1	9561

7590   11/24/2010

FROMMER LAWRENCE & HAUG, LLP.
745 FIFTH AVENUE, 10TH FLOOR
NEW YORK, NY 10151

EXAMINER
WERNER, DAVID N

ART UNIT	PAPER NUMBER
2483	

MAIL DATE	DELIVERY MODE
11/24/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _30 August 2010_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _11,12,14-17,19-24,35,49-53,55-58,60-65 and 67-70_ is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _11,12,14-17,19-24,35,49-53,55-58,60-65 and 67-70_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on _14 November 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1.   The Art Unit location of your application in the U.S.P.T.O. has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2483.

2.   This Office action is responsive to the Request for Continued Examination filed 30 August 2010, in reply to the Advisory Action of 6 August 2010 and the Final Rejection of 10 June 2010. Claims 11, 12, 14–17, 19–24, 35, 49–53, 55–68, 60–65, and 67–70 are pending.

3.   In the Final Rejection of 10 June 2010, Claims 11, 12, 14–17, 19, 20, 23, 24, 35, 49–53, 55–58, 60, 61, 64, 65, and 67–60 were rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 6,111,604 A ("Hashimoto") in view of U.S. Patent No. 6,148,031 A ("Kato"), U.S. Patent No. 5,987,179 A ("Riek") and ISO/IEC 11172-1 ("MPEG-1"). Claims 21, 22, 62, and 63 were rejected under 35 U.S.C. § 103(a) as obvious over Hashimoto in view of Kato, Riek, and MPEG-1, and in view of U.S. Patent No. 6,327,423 B1 ("Ejima"). On 27 July 2010, Applicant filed an Amendment under 37 C.F.R. § 1.116 that would obviate the prior art rejections but require further search. 6 August 2010 Advisory Action, pg. 2.

Continued Examination Under 37 C.F.R. § 1.114

4.   A request for continued examination under 37 C.F.R. § 1.114, including the fee set forth in 37 C.F.R. § 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 C.F.R. § 1.114, and the fee set forth in 37 C.F.R. § 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 C.F.R. § 1.114. Applicant's submission filed on 30 August 2010 has been entered.

Response to Arguments

5.   Applicant's arguments with respect to claims 11 and 52 have been considered but are moot in view of the new ground(s) of rejection. It is respectfully submitted that U.S. Patent No. 5,708,473 A ("Mead") discloses the newly-amended feature to the claimed invention. Fig. 2 of Mead illustrates an encoder system comprising a motion-compensated encoder stream comprising motion estimator 30, motion compensated predictor 32, and lossless encoder 34, producing MPEG-2 video data. Mead, col. 4: line 25–col. 5: line 23. A preload coder operating in parallel produces "stills" comprising high-quality versions of selected frames that may be transmitted or stored asynchronously to enhance decoding. Id. at col. 6: lines 13–33. This parallel encoding of conventional MPEG-2 video and a series of "stills" is the claimed simultaneous generation of moving picture data and still picture data.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as
> set forth in section 102 of this title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole would have been obvious at
> the time the invention was made to a person having ordinary skill in the art to which said subject
> matter pertains. Patentability shall not be negatived by the manner in which the invention was
> made.

7.   Claims 11, 12, 14, 16, 17, 19, 20, 23, 24, 35, 49–53, 55, 57, 58, 60, 61, 64, 65,

and 67–60 are rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No.

6,111,604 A ("Hashimoto") in view of U.S. Patent No. 5,708,473 A ("Mead"), U.S.

Patent No. 5,987,179 A ("Riek"), and ISO/IEC 11172-1 ("MPEG-1").

Hashimoto teaches a video camera. Regarding Claims 11, 35, and 52[1], Fig. 8

of Hashimoto shows a block diagram of the camera. Image photographing section 6

comprises lens 7, lens opening 8, imaging element 9, and filter 10. Hashimoto, fig.

8. The analog input image signal is converted in analog/digital converter and 4 and

is further processed in DSP 11. Id. at col. 6: lines 40–61. This is the claimed

"photographing means". Audio signals are input into microphone 1 and output

through amplifier/filter 2a to analog/digital converter 4. Id. at col. 6: lines 18–26.

---

[1] Claim 11 recites a camera apparatus in a format that invokes 35 U.S.C. 112, ¶ 6.
Claim 35 recites a method of use for the camera giving functional limitations
corresponding in scope with the functional limitations of Claim 11, and claim 52
recites a method of use for the camera, in which the generic "means" of Claims 11
and 35 are given specific component names, in accordance with Applicant's
preferred embodiment in the specification. Accordingly, all three claims and their

This is the claimed "audio inputting means". Image data compression/expansion circuit 12 encodes the images from DSP 11 in a format such as JPEG or MPEG. Id. at col. 6: line 62–col. 7: line 2. This is the claimed "video coding means" that performs the steps of "encoding the video signal" in the claimed encoding methods. Fig. 11 of Hashimoto illustrates the process of capturing video and information. When the user presses the shutter button, a first picture with associated audio is captured. Image and audio files are stored in memory card 16, and a relation file is written to link the image and audio files together. Id. at column 9: lines 46-54. The relation file may be a container file for several formats including, "a still image with audio data", or "moving images", considered to incorporate audio data implicitly, in contrast with "just" a still image without audio data. Id. at column 10: lines 1-8. The "still image with audio data" and "moving images" formats correspond with the claimed encoding as "still picture data with audio data" and "moving picture data with audio data", respectively. Then, Hashimoto discloses capturing still picture data with audio data, as claimed.

The present invention differs from Hashimoto in that in the present invention, two distinct encoding methods are performed simultaneously: a first mode encoding still picture data with audio data and a second mode encoding moving picture data with audio data. Hashimoto, in contrast, shows a conventional digital camera, in which only one of the several coding modes is selected via a user

respective corresponding parallel dependent claims are considered to have

interface. See Hashimoto, col. 3: lines 55–58 (*describing* a switch that may be used to select "whether a series of consecutive images are to be captured"). Additionally, in Hashimoto, the mere listing of audio associated with a still JPEG image, a moving JPEG image, or an MPEG image (col. 6: line 65; col. 10: lines 1–4) is not precise enough to support the claimed description of the still picture with audio.

Mead teaches a video encoder. Regarding Claim 1, Fig. 2 of Mead illustrates an encoder system comprising a motion-compensated encoder stream comprising motion estimator 30, motion compensated predictor 32, and lossless encoder 34, producing MPEG-2 video data. Mead, col. 4: line 25–col. 5: line 23. A preload coder operating in parallel produces "stills" comprising high-quality versions of selected frames that may be transmitted or stored asynchronously to enhance decoding. Id. at col. 6: lines 13–33. This parallel encoding of conventional MPEG-2 video and a series of "stills" is the claimed simultaneous generation of moving picture data and still picture data.

Hashimoto discloses a majority of the claimed invention except for simultaneous motion and still encoding. Mead teaches that it was known in the art to encode high-quality still images in parallel to lower-quality moving images in a video stream. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the present invention to modify the Hashimoto camera to take still images while taking moving images, since Mead states in col. 2: line 65–col. 3:

equivalent scope.

line 59 that such a modification would allow for higher quality motion images by providing better images as the basis for motion prediction and coding.

The present invention further differs from <u>Hashimoto</u> and <u>Mead</u> in that in the present invention, a still image recorded with sound is recorded in the same mode containing I pictures, P pictures, or B pictures as motion images recorded with sound, whereas in <u>Hashimoto</u>, a still picture recorded with sound is a single JPEG image with an associated audio file. <u>Mead</u> does not appear to resolve this deficiency by describing a format of the "stills" as containing I, P, and B pictures.

<u>Riek</u> discloses a camera that encodes still images in an MPEG bitstream. Regarding Claim 1, fig. 2 illustrates an embodiment of the <u>Riek</u> apparatus. Light is input through lens 12 to CCD 14, which forms images. <u>Riek</u>, col. 4: lines 15–18. These images are converted to a standard digital format in ISO CCIR601 converter. <u>Id.</u> at col. 4: lines 35–38. As will be shown below, the images received may be encoded as still images or moving images. A user may switch from recording motion images to recording still images with still select button 22 which causes logic and control unit 32 to encode a still image. <u>Id.</u> at column 4: lines 41–50. During a still image mode, a still image stored in frame store 29 from converter 27 is selected for encoding (<u>Id.</u> at col. 4: lines 41–46), rather than directly from the converter 27. Encoder 30 encodes a still image as a series of zero-motion-vector B frames or an enhanced I frame or P frame followed by a series of B frames, and encoding the first frame at the conclusion of recording the still image as the next I frame. <u>Id.</u> at col. 9:

line 22 – col. 10: line 41.   These B pictures are encoded entirely with skipped macroblocks, which inherently have zero motion vectors, or macroblocks explicitly coded with zero motion vectors.   Id. at col. 10: lines 53–65.   Such a picture, comprising skipped macroblocks, which are copied from a chronologically preceding picture, and motion-compensated with zero motion vectors, is the claimed "P or B picture data" with 0 motion vectors for a entire frame, copied from a chronologically preceding picture.   Then, Riek discloses the two claimed encoding methods, one capturing still picture data and one capturing moving picture data, each comprising I pictures and P pictures or B pictures.

Hashimoto, in combination with Mead, discloses a majority of the claimed invention except for a single encoding method suitable for both still and motion image data. Riek teaches that it was known to encode a sequence of still pictures as MPEG pictures integrated within a motion picture sequence.   Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the encoder of Mead to record still pictures containing sound as inter pictures as with motion pictures containing sound, as taught by Riek, since Riek states in column 3: lines 1–59 that such a modification would allow for high quality still images to be encoded within a motion image at a relatively low bit rate taking advantage of the inter-picture coding techniques of MPEG.

However, while the present invention is directed to multiplexing an encoded picture signal and an encoded audio signal, Hashimoto does not give details of its

process of "combining" a video file and an audio file (Hashimoto, col. 11: lines 34–

42), and neither Mead or Riek explicitly disclose multiplexing images with sound.

MPEG-1 Part 1 defines the system coding layer of an MPEG-1 coded data

stream, in which audio and video data streams are multiplexed. MPEG-1, Forward.

Regarding Claims 11, 35, and 52, Section 1-A.6.3 illustrates a sample multiplexing

of a stream having one video and one audio stream. The stream is divided into

packs, each of which has a header and three packets, each of 2048 bytes. Section 1-

A.6.5 illustrates the distribution of frames into the packs, with a first pack typically

encoding I, P, and B picture data and a second pack typically encoding P and B

picture data in conventional GOP structure and video of average complexity. First,

13 video packets are transmitted to ensure successful buffering. Then, an audio

packet is placed for every 6.25 video packets. Section 1-A.6.9 shows an extended

sample multiplexed data stream. Here, a second audio packet is placed between the

twentieth and twenty-first video packets. However, while in the shown example,

one audio packet is placed for multiple video packets, the examiner takes Official

Notice that it was known in the art for audio and video packets to be correlated in a

1:1 ratio, as in the "locked audio" of DV, in which one audio pack is present for each

frame. See for example European Patent Application Publication 843,470 A1

(Tanaka), column 2, lines 34–42. Tanaka describes a video signal comprising video

data and audio data. In a "lock mode", a number of audio samples are fixed for each

frame or a unit of frames. Such a modification would ease linear editing to prevent

mismatches between audio and video data streams at a start point or an end point

of an edited segment.

Hashimoto, in combination with Mead and Riek, discloses the claimed

invention except for multiplexing an audio and picture signal. MPEG-1 Part 1

teaches that it was known to produce a multimedia datastream by multiplexing

packets of audio and video data. Therefore, it would have been obvious to one

having ordinary skill in the art at the time the invention was made to implement

the combination of a video and audio file in Hashimoto as a multiplexing operation,

as taught by MPEG-1 Part 1, since MPEG-1 Part 1 states in the Introduction that

such a modification would allow for synchronized playback of audio and video data

without having to buffer an entire sub-stream.

Regarding Claims 12 and 53, in Hashimoto, JPEG and MPEG are described

as two of the codecs used. Hashimoto, col. 6: line 65, col. 9: lines 55–66.

Regarding Claims 14 and 55, fig. 12 of Hashimoto shows video files and audio

files stored in separate areas of memory card 16.

Regarding Claims 16 and 57, fig. 3 of Mead illustrates a predictive encoder.

Included in the encoder are DCT 42, quantizer 44, and VLC 62. Mead, col. 6: lines

33–49. These correspond with the claimed "DCT portion", "quantizing portion", and

"variable length code encoding portion", respectively. These are inherent

components of a conventional digital video encoder, such as the MPEG encoder 12 of

Hashimoto.

Regarding Claims 17 and 58, fig. 12 of Hashimoto illustrates audio and video

files stored in the memory as having headers.

Regarding Claims 19 and 60, an MPEG-1 pack, containing three packets, is

designed to have a pack rate of 29 Hz, or one frame per pack. MPEG-1, § 1-A.6.3.

Regarding Claims 20 and 61, in Hashimoto, the external memory card 16 is

the claimed "record medium", and card interface circuit 14 is the claimed "recording

means".

Regarding Claims 23 and 64, in Hashimoto, image data compression circuit

12 may also perform image decoding (col. 6: lines 62–66), and so corresponds with

the claimed "video decoding means". The decoded video signals may be further

processed in DSP 11 (col. 6: lines 58–61) that outputs a video signal 26 to a display

such as an LCD viewfinder (not shown in Fig. 8). This display is the claimed

"displaying means". Digital audio signals may also be decoded in audio data

compression/expansion circuit, transmitted to D/A converter, amplified and filtered

in amplifier 2b, and output in output stream 26 to speaker 32. Id. at column 5: lines

17-39. This corresponds with the claimed "audio outputting means". This process

of reading data stored in memory card 16 (Id. at col. 7: lines 34-50), like all other

processes of the camera of Hashimoto, is controlled by CPU 23 (col. 7: lines 15-16),

which corresponds with the claimed "controlling means".

Regarding Claims 24 and 65, the CCD in Hashimoto has a resolution of 768 x 480 pixels. Hashimoto, col. 6: line 44. Although Hashimoto does not record pictures at the VGA 640 x 480 pixel standard, it would have been an obvious matter of design choice to modify the image sensing portion of the Hashimoto camera to produce 640 x 480 pictures, since it has been held that a change in size of a component is generally recognized as being within the level of ordinary skill in the art. See In re Rose, 105 U.S.P.Q. 237 (C.C.P.A. 1955).

Regarding Claim 49, all other things equivalent to corresponding structures in Claim 11, in Hashimoto, CPU 23 is shown in fig. 8 as controlling memory card interface circuit 14, and so controls storing signals into a memory means, as claimed.

Regarding Claims 50 and 67, in Hashimoto, incoming image data from a camera is processed in noise reduction circuit 10 and DSP 11. Hashimoto, col. column 6: lines 40-61. Incoming audio data from a microphone is processed in amplifier/filter 3a. Id. at column 6: lines 18-21.

Regarding Claims 51 and 68, in Hashimoto, fig. 14 illustrates the flowchart for transmitting and receiving data from the camera to an external device. Hashimoto, col. 10: line 41–col. 11: line 42. Data from the memory card is transferred to FIFO 13 (Id. at col. 11: lines 25–29) and transmitted to an external device via interface circuit 27. Id. at col. 7: lines 1–36. Like every other process in

the Hashimoto camera, this process is controlled by CPU 23, which corresponds with the claimed "controlling means". Id. at col. 7: lines 15–16.

Regarding Claims 69 and 70, in Hashimoto, A/D 4 that produces raw image digital signals from the photosensitive elements is the claimed "first picture encoder" that receives a pixel signal. Audio data compression circuit 18, as modified by Riek, is the claimed "picture generation" that performs the claimed step of "generating fixed data". In Mead, predictive coder 24 is the claimed third encoder for video pictures with audio and preload coder 36 is the claimed fourth encoder for still pictures with audio.

8.   Claims 21, 22, 62, and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of Mead, Riek, and MPEG-1 as applied to claims 11 and 52 above, and further in view of U.S. Patent No. 6,327,423 B1 ("Ejima"). Claims 21, 22, 62, and 63 are directed to specific operations of causing a camera to perform and audio capture for a certain time. Hashimoto teaches taking pictures when a shutter button is pressed. Hashimoto, col. 7: lines 20–24. Riek teaches recoding a still image while a still select button is depressed. Riek, col. 4: lines 41–50. However, the above references doe not teach an operation for a specified time period to encode audio data.

Ejima teaches a camcorder that records sound data. Regarding Claims 21 and 62, fig. 14 is a flowchart illustrating one embodiment of the sound recording

control process of Ejima. At step S1, CPU 39 determines if a release switch 10 is pressed, and if it is, the image recoding process begins at step S2. Ejima, col. 15: line 64–col. 16: line 3. At step S3, the sound recording process is started, and at step S4, a "REC" display is shown on a viewfinder to indicate that sound is being recorded. Id. at col. 16: lines 4–11. At step S5, after 10 seconds have passed, the sound recording process stops. Id. at col. 16: lines 11–16, 34–40. However, if a sound recoding switch is pressed within 10 seconds at step S6, sound recording continues. Id. at col. 16: lines 14–23, 44–50. The sound recording then ends when the sound recording switch is released at step S20. Id. at col. 16: lines 23–50. Then, sound recoding switch 12 is the claimed "operating means", and the time period in which the sound recoding switch is pressed is the claimed "timing means".

Hashimoto, in combination with Mead, Riek, and MPEG-1, discloses the claimed invention except for encoding audio during the pressing of an operation means. Ejima teaches that it was known to perform sound recoding while a sound recording switch is pressed. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the present invention to incorporate the sound recoding switch of Ejima into the camera of Hashimoto, since Ejima states in col. 1: line 60–col. 2: line 20 that such a modification would allow the timing of a sound recording to be independent of the timing of its associated video recording.

Regarding Claims 22 and 63, in <u>Hashimoto</u>, switch 108 that sets a "self timer" (col. 3: lines 61–62) is the claimed operating means that sets a predetermined time period.

9.   Claims 15 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over <u>Hashimoto</u> in view of <u>Mead</u>, <u>Riek</u>, and MPEG-1 as applied to claims 15 and 55, respectively, above, and further in view of U.S. Patent 6,148,031 A (<u>Kato</u>). Claims 15 and 56 disclose details of recording not explicitly disclosed in the <u>Hashimoto</u>, <u>Mead</u>, or <u>Riek</u> references.

<u>Kato</u> teaches an image processing system in a digital camera, similar to <u>Hashimoto</u>. Regarding Claims 15 and 56, in <u>Kato</u>, video data is first stored in first memory 20 and then transferred to second memory 22 (column 3: lines 54-63). This corresponds with writing multiplexed data to memory, reading the multiplexed data from memory, and recording multiplexed data on a recording medium. Additionally, in Kato, during the recording of a moving image, a still image from the sequence of moving images may be additionally transferred from the first memory to the second memory as an intra picture in an independent process of the moving picture recording (column 4: lines 1-10). This corresponds with encoding a video signal in the "first" encoding method, writing the signal to the memory, reading the signal from the memory, and recording the signal to the recording medium.

Hashimoto, in combination with Mead, Riek, and MPEG-1, discloses the claimed invention except for details of transferring multiplexed data from a temporary memory to a permanent storage device. Kato teaches that it was known in the art to transfer data from a first memory to a second memory during recording. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the present invention to modify the Hashimoto camera to use a two-stage memory or storage for recording, as taught by Kato, since Kato states in col. 3: line 54–col. 4: line 10 that such a modification would reduce recording delay for large still images, such as those in Mead.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID N. WERNER whose telephone number is (571)272-9662. The examiner can normally be reached on Monday-Saturday from 10:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph G. Ustaris can be reached on (571) 272-7383. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like

assistance from a USPTO Customer Service Representative or access to the

automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-

272-1000.

/D. N. W./
Examiner, Art Unit 2483

/Joseph G Ustaris/
Supervisory Patent Examiner, Art Unit 2483